

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
29 July 2004 (29.07.2004)

PCT

(10) International Publication Number  
**WO 2004/063362 A3**

(51) International Patent Classification<sup>7</sup>: C12N 5/06, (74) Agents: KHOO, Chong-Yee et al.; D. Young & Co., 120 C12Q 1/68, A61K 38/16, 39/395, C07H 21/02, C07K Holborn, London EC1N 2DY (GB).  
14/00, 14/435, 16/18, 16/44

(21) International Application Number:  
PCT/GB2003/005635

(22) International Filing Date:  
31 December 2003 (31.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/439,123 10 January 2003 (10.01.2003) US  
60/468,402 6 May 2003 (06.05.2003) US

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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
2 December 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



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(54) Title: CELL CYCLE PROGRESSION PROTEINS

(57) Abstract: The invention describes human genes involved in cell cycle progression, including mitosis and meiosis. The invention also relates to the use of these "cell cycle progression" genes and proteins in the modulation of cell cycle progression in cells and methods for identifying modulators of these genes or proteins and hence modulators of mitosis and meiosis.

## INTERNATIONAL SEARCH REPORT

Inte	onal Application No
PCT/GB 03/05635	

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7	C12N5/06	C12Q1/68	A61K38/16	A61K39/395	C07H21/02
	C07K14/00	C07K14/435	C07K16/18	C07K16/44	

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C12Q A61K C07H C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, Sequence Search, WPI Data, PAJ, MEDLINE, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>GREEN SIMON R ET AL: "Mitosis as a source for the identification of novel cancer chemotherapeutic targets" PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH ANNUAL, vol. 43, March 2002 (2002-03), pages 961-962, XP001180995</p> <p>93rd Annual Meeting of the American Association for Cancer Research; San Francisco, California, USA; April 06-10, 2002, March, 2002</p> <p>ISSN: 0197-016X</p> <p>the whole document</p> <p>-----</p> <p style="text-align: center;">-/-</p>	1-5, 7-16, 19-30, 33-36

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

## \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

8 June 2004

Date of mailing of the international search report

30.09.04

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## INTERNATIONAL SEARCH REPORT

Int'l Application No  
PCT/GB 03/05635

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SCAEROU F ET AL: "Potential novel drug targets identified through genes essential for mitosis in <i>Drosophila</i> ." MOLECULAR BIOLOGY OF THE CELL, vol. 13, no. Supplement, November 2002 (2002-11), page 168a, XP009030401 42nd Annual Meeting of the American Society for Cell Biology; San Francisco, CA, USA; December 14-18, 2002 ISSN: 1059-1524 the whole document ----- WO 01/72774 A (MIDGLEY CAROL ; CYCLACEL LTD (GB); DEAK PETER (GB); GLOVER DAVID MO) 4 October 2001 (2001-10-04) abstract page 45 - page 56 -----	1-5, 7-16, 19-30, 33-36
A	SOMMA MARIA PATRIZIA ET AL: "Molecular dissection of cytokinesis by RNA interference in <i>Drosophila</i> cultured cells." MOLECULAR BIOLOGY OF THE CELL. UNITED STATES JUL 2002, vol. 13, no. 7, July 2002 (2002-07), pages 2448-2460, XP002279033 ISSN: 1059-1524 -----	1-5, 7-16, 19-30, 33-36
A	ADAMS M D ET AL: "The genome sequence of <i>Drosophila melanogaster</i> " SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, US, vol. 287, 24 March 2000 (2000-03-24), pages 2185-2195, XP002144875 ISSN: 0036-8075 -----	
A	MCDONALD E R 3RD ET AL: "Checkpoint genes in cancer." ANNALS OF MEDICINE. ENGLAND MAR 2001, vol. 33, no. 2, March 2001 (2001-03), pages 113-122, XP009031946 ISSN: 0785-3890 the whole document -----	

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB 03/05635

### Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:  
Although claims 5, 6, 13, 19-24 and 26 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2.  Claims Nos.: 6, 17, 18, 31 and 32 because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
1-36 (all partially)

#### Remark on Protest

The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International Application No. PCT/ GB 03/05635

### FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

#### Continuation of Box I.1

Although claims 5, 6, 13, 19-24 and 26 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

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#### Continuation of Box I.2

Claims Nos.: 6, 17, 18, 31 and 32

Claims 6, 17, 18, 31 and 32 related to agonists and antagonists of the polypeptide of Figure 1.

The application provides no support within the meaning of Article 84 EPC and no disclosure within the meaning of Article 83 EPC for any such compounds. As a result, the claims so lack support, and the application so lacks disclosure, that a meaningful search is impossible.

Independent of the above reasoning, the claims also lack clarity (Article 84) since the subject-matter is defined solely by reference to a result to be achieved, and the description provides no technical characterisation of the compounds. Again, this lack of clarity is such as to render a meaningful search impossible.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

**INTERNATIONAL SEARCH REPORT**

## Information on patent family members

International Application No

PCT/GB 03/05635

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0172774	A 04-10-2001	AU 3943401 A EP 1330472 A2 WO 0172774 A2 US 2003152945 A1	08-10-2001 30-07-2003 04-10-2001 14-08-2003